Histology of serous membranes

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The pleura, pericardium and peritoneum are serous membranes. *Serous membranes* are membranes lining closed internal body cavities. The pleura, pericardium and peritoneum line respectively the pleural, pericardial and peritoneal cavities.

Serous membranes consist of a single layer of epithelium, named *mesothelium*, attached to a supporting layer of connective tissue, with a small layer in between, the basal membrane (fig 1).

Epithelia are covering tissues. The type of epithelium that lines the internal body cavities, is called mesothelium.

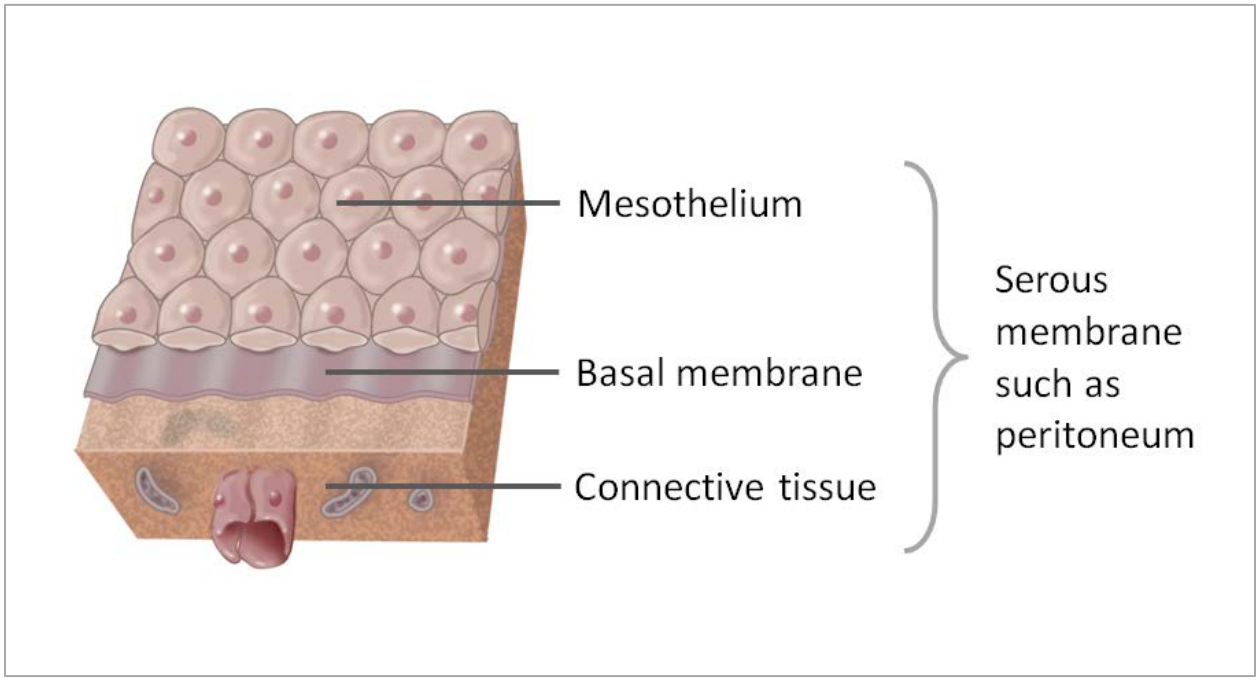

Figure 1 Histology of a serous membrane

Mesothelia secrete a slight amount of lubricating fluid. This allows the layers of the pleura, pericardium and peritoneum to move in relation to each other, and hence provides a certain amount of mobility to the ensheathed organs (resp. lung, heart, intestine). The secreted fluid is called serous fluid. A serous fluid is a watery fluid, resembling (blood-)serum. This also explains the name 'serous membrane'.

The largest part of the gut tube is ensheathed in peritoneum. Histologically, this can be seen as a layer on the outside of the gut. In histology this layer is called *serosa* after serous membrane. Serosa thus is the same as visceral peritoneum.

Some parts of the digestive tract have an *adventitia* as outer layer instead of a serosa. In this case the gut tube is directly embedded and fixed in surrounding connective tissue. Hence, if a structure is covered by visceral peritoneum, it is said to have a serosa, if it is not covered by visceral peritoneum it has an adventitia. For instance, the thoracic oesophagus has an adventitia because it is not covered by peritoneum.